Master Degree of Nuclear Medicine Log Book

" كراســـــة الأنشـــــطة "

اللازمة لحصول المتدرب على درجة الماجستير فى الطب النووي

2022-2023

Contents

Personal Data

Name……...
Date of birth……
Address……
Place of work……...
Telephones………**Mobile phone(s)**……...
E mail……..

Name of hospital	Period of work	**Hospital director signature**

Academic Information

MBBCh……/……/…… ……..University
Grade ……
Grade of Internal Medicine course on graduation ……..
Others……/……/…… ……..University
……/……/…… ……..University

* Aim of the activities book

To provide one source of evidence for the assessment committee that you attained the desired level of competency required to gain the award.

In this book you will document all clinical, academic and other experiences and skills you attained during your training.

Sections of the book

For each module / course / rotation

You should fill the following sections:-

1- Clinical case log

1- You will first find list with all required cases in the concerned module and the minimum number of cases you must get exposed to and level of participation you should achieve for each type of cases.

2- You should record all clinical cases in the module and each case should be signed by you trainer.

2- Clinical case presentation log

Record the cases related to the module that you have presented in a seminar of the activity.

3- Procedures / operations log

1- You will find a list for required procedure, diagnostic – therapeutic operations and
level of desired performance you should achieve at the end of training.
2- You will find empty tables to write down the procedure, you level of participation and date and signature of supervisor.

4- Rotation / attendance proof

You should have evidence of achievement of the required training hours within each
module.

For the whole program fill the following sections

.1- Academic activities

A- Document all academic activities e.g. lecture, journal clubs, workshops, conference, services attended. This documentation should include the level of participation " attendance, preparation, presentation,……"

2- Academic achievements

A- Document all outcomes you achieved in the field of:-
- Audit participation
- Research "clinical trial" participation.
- Evidence- based medicine "generation of guidelines" protocols
- ……..

3- Formative assessment log

This document all types of formative assessment attended e.g.:-
- Mini clinical examination
- Quieses

Program aims

1/1 To enable candidates to acquire satisfactory level of clinical skills, bedside care skills, in addition to update medical knowledge as well as clinical experience and competence in the area of nuclear medicine and enabling the candidates of making appropriate referrals to a sub-specialist.

1/2 Provide candidates with fundamental knowledge and skills of emergency nuclear medicine as regards; dealing with critically ill patients, techniques, indications, contraindications and training skills of different techniques in these cases.

1/3 To introduce candidates to the basics of scientific medical research.

1/4 Enable candidates to start professional careers as specialists in Egypt but recognized abroad.

1/5 To enable candidates to understand and get the best of published scientific research and do their own.

Program Structure

Program Time Table

Duration of program 3 years maximally 5 years divided into

- Part 1

Program-related basic science courses and ILOs + elective courses
Students are allowed to set the exams of these courses after 12 months from applying to the M Sc degree.

- Thesis

For the M Sc thesis;
MSc thesis subject should be officially registered within 6 months from application to the MSc degree,
Discussion and acceptance of the thesis should not be set before 12 months from registering the M Sc subject;
It could be discussed and accepted before passing the second part of examination)

- Part 2

Program –related speciality courses and ILOs
Students are not allowed to set the exams of these courses before 3 years from applying to the MSc degree.

n.b. Fulfillment of the requirements in each course as described in the template and registered in the log book is a pre-request for candidates to be assessed and undertake part 1 and part 2 examinations.

First Part

Academic activities of basic sciences

Practice with the academic and clinical departments during year 1

1. Course 1 (Physics of Nuclear Medicine)
2. Course 2 (Biological effects of radiation and protection)
3. Course 3 (Pathology and Nuclear Medicine)
4. Course 4 (Biochemistry and Nuclear Medicine)
5. Course 5(Internal Medicine related to nuclear medicine)
6. Course 6(General surgery related to nuclear medicine)

Course 1

Physics of Nuclear Medicine

Requirement:

- **Credit Points: 3 points for didactic**

- Minimal rate of attendance 80% of lectures

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Physics of Nuclear Medicine	1.5	Physics department Faculty of Science	15 hours *1. The structure of matter and radiation* *2. The absorption of radiation* *3. Radioactive decay* *4. Production of radionuclides* *5. Passage of charged particles through matter.*	50%
	1.5		15 hours *6. Radiation detectors* *7. Factors affecting radiation detectors and measurements* *8. The anger camera (Basic principles)* *9. The anger camera performance characteristics* *10. SPECT Cameras* *11. PET*	50%
Student signature			Principle coordinator Signature	Head of the department signature

Physics of Nuclear Medicine Course Lectures

Date	Attendance	Topic	Signature

Course 2

Biological effects of radiation and radiation Protection

Requirement:

Credit Points: 3 points for didactic

- Minimal rate of attendance 80% of lectures

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Biological effect of Radiation	1.5	Nuclear medicine	15 hours *A) Basic radiobiology* *B) Basic interaction of irradiation.* *C) Somatic effects*	50%
Radiation protection	1.5		15 hours a) Diagnostic and nuclear medicine occupational exposure and risks. b) Sources of exposure of man I.R	50%
Student signature			Principle coordinator Signature	Head of the department signature

Biological effects of radiation protection Course Lectures

Date	Attendance	Topic	Signature

Course 3

Pathology & nuclear medicine

Requirement:

Credit Points: 2 points for didactic

- Minimal rate of attendance 80% of lectures

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Pathology & Nuclear medicine	1	Pathology	10 hours 1. *General pathology of tumors* 2. *Thyroid diseases*	50%
Pathology & Nuclear medicine	1		10 hours ***3. Cardiology*** a. Ischemic heart disease ***4. Pulmonary embolism*** ***5. Bone diseases*** b. Tumors c. Osteomyelitis ***6. Renal diseases*** d. Obstructive Uropathy e. Transplant Rejection ***7. Liver diseases*** f. Cirrhosis g. Gall bladder diseases ***8. Brain diseases*** h. Tumors i. Cerebral ischemia	50%
Student signature			Principle coordinator Signature	Head of the department signature

Pathology and Nuclear Medicine Course Lectures

Date	Attendance	Topic	Signature

Course 4

Biochemistry and Nuclear Medicine

Requirement:

Credit Points: 2 points for didactic

- Minimal rate of attendance 80% of lectures

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Nuclear medicine	1	Nuclear medicine	10 hours - Thyroid hormones. Parathyroid hormone. Hormones: Hormones of adrenal gland. -Glucose metabolism. -Minerals: Ca, P, I, Fe	50%
Nuclear medicine	1		10 hours -Cell & Cancer biology: *Mechanism of activation of proto-oncogenes to oncogenes. *Tumor marker. *Growth factors. *Anti-oncogenes. -Radiation biology. -Free radicals & antioxidants. -Gene therapy.	50%
Student signature			Principle coordinator Signature	Head of the department signature

Biochemistry and Nuclear Medicine Course Lectures

Date	Attendance	Topic	Signature

Course 5

Internal medicine related to Nuclear Medicine

Internal Medicine related to Nuclear Medicine Course

- **Requirement:**

- **Credit Points: 2 points for didactic and 5 points for training**

- Minimal rate of attendance 80% of lectures and training.

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Internal Medicine	0.5	Internal Medicine	**5 hours** **Thyroid** Hypothyroidism Hyperthyroidism Thyroiditis Thyroid malignancies	25%
	0.5		**5 hours** **Heart** CAD Angina Infarction Cardiomyopathy	25%
	0.5		**5 hours** **Renal**: Chronic renal failure Golmerulonephritis Pyelonephritis Kidney transplant Acute renal failure **Suprarenal** Cushing Addison's Pheochromocytoma	25%
	0.5		**5 hours** **GIT:** Liver cirrhosis Jaundice Causes of hepatosplenomegaly. GIT bleeding. **Respiratory system** Bronchogenic Cancer. Pulmonary embolism. **Parathyroid** Hyperparathyroidism Hypoparathyroidism	25%
Student signature			Principle coordinator Signature	Head of the department signature

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in Internal Medicine	2	Internal Medicine	**2 weeks in Endocrinology unit** **-Log of 2 cases :** - Thyroid diseases -Hyperparathyroidism. -suprarenal diseases. -pituitary diseases.	40%
Cardiology department and Coronary ICU	2	Cardiology department and Coronary ICU	2 weeks **in Cardiology Unit** **- Log of 2 cases:** -CAD -Angina -Infarction -Cardiomyopathy**.** **-pulmonary embolism.** **- Competently read ECG.**	40%
Clinical training in Internal Medicine	1	Internal Medicine	**1 week in Internal Medicine Department** **Log of 2 cases:** - **Renal** Chronic renal failure Golmerulonephritis Pyelonephritis Kidney transplant Acute renal failure **GIT:** Liver cirrhosis Jaundice Causes of hepatosplenomegaly. GIT bleeding.	20%
Student signature			Principle coordinator Signature	Head of the department signature

Internal medicine related to Nuclear Medicine Course

Lectures

Date	Attendance	Topic	Signature

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	ignature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Rotation and attendance in Units

Date	Unit	Duration	Signature of supervisor

Procedure log (ECG)

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervisio

Course 6
General Surgery related to Nuclear Medicne

General Surgery related to Nuclear Medicine Course

Requirement:

- **Credit Points: 2 points for didactic and 5 points for training**
- Minimal rate of attendance 80% of lectures and training

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
General Surgery	1	General Surgery	**10 hours** • Thyrotoxicosis. • Multinodular Goiter. • Solitary thyroid nodules. • Benign and malignant thyroid tumors. • Parathyroid glands tumors. • Suprarenal tumors.	50%
	0.5		**5 hours** • Lymphadenopathy. • Lymphomas. • Breast cancer. • Testicular torsion. • Causes of swollen leg & diagnosis of Iymphoedema.	25%
	0.5		**5 hours** • Jaundice. • Cholecystitis and gall stones • Bone metastasis • Clinical picture and diagnosis of osteomylitis.	25%
Student signature			Principle coordinator Signature	Head of the department signature

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training in General Surgery	2	General surgery	**2 weeks in surgery department:** **-Log of 2 cases :** • Thyrotoxicosis. • Multinodular Goiter. • Solitary thyroid nodules. • Benign and malignant thyroid tumors. • Parathyroid glands tumors. • Suprarenal tumors.	40%
General Surgery	2	General surgery	2 weeks **in surgery department:** **- Log of 2 cases:** • Lymphadenopathy. • Lymphomas. • Breast cancer. • Testicular torsion. • Causes of swollen leg & diagnosis of lymphoedema.	40%
General Surgery	1	General surgery	**1 week in surgery department:** **Log of 2 cases:** • Jaundice. • Cholecystitis and gall stones • Bone metastasis. • Clinical picture and diagnosis of osteomylitis.	20%
Student signature			Principle coordinator Signature	Head of the department signature

Lectures

Date	Attendance	Topic	Signature

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision

Clinical case presentation log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Attendance in Department

Date	Unit	Duration	Signature of supervisor

Procedure log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision

Speciality Course

Course 7

Clinical Nuclear medicine (Advanced)

Requirement:

- **Credit Points: 24 points for didactic and 110 point for training**

Units' Titles' list	% from total Marks	Level (Year)	Core Credit points		
			Didactic	training	Total
1) Unit 1 "Technology of nuclear medicine."	25%	1&2&3	6	27.5	33.5
2) Unit 2 "Clinical Nuclear Medicine	50%	2&3	12	55	67
3) Unit 3 " Radioisotopes therapy"	25%	2&3	6	27.5	33.5
Total No. of Units:	3		24	110	134

Unit 1

Technology of Nuclear medicine

Requirement:

- **Credit Points: 6 points for didactic** (lectures, seminars, tutorial) **in the First part {Year1} and 27.5 points for training.**

- Minimal rate of attendance 80% of lectures and training

Year 1

(3.5 credit point for didactic)

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Technology of Nuclear Medicine	3		**Topics and attendance**	**85.7%**
	2	Nuclear Medicine	20 hours ***Skeletal systems:** -Radiopharmaceutical -Technique of skeletal scanning -Pitfall in skeletal scanning. ***Endocrine system:** **A. Thyroid gland:** -Radiopharmaceutical and technique -Cancer thyroid diagnosis **B. Adrenal Gland:** -Radiopharmaceutical and technique **C.Parathyroid gland** -Radiopharmaceurical and technique. ***Gentino-Urinary system** -Radiopharmaceutical -Techniques of urodynamics -Testicular scintigraphy. ***Hot laboratory technology:** - Design and requirements - Dispensing of RN ***Gamma camera and SPECT system:** - Data acquisition - Spatial resolution - Sensitivity and uniformity of response - Effect of scattered radiation.	**57.1%**
	1		10 hours ***Gasro-Intestinal system:** Salivary gland scanning	28.6%

			(Radiopharmaceurical and technique) Esophageal transient (Radiopharmaceurical and technique) Gastrooesophageal reflux (Radiopharmaceurical and technique) Gastric emptying (Radiopharmaceurical and technique) Gastrointestinal bleeding (Radiopharmaceurical and technique) Malabsorption and intestinal transient (Radiopharmaceurical and technique) ***Liver-spleen scanning:** Radiopharmaceutical and techique 99m Tc-MAA hepatic arterial perfusion ***Biliary system imaging** Radiopharmaceutical and technique. * **Pulmonary system:** -Radiopharmaceutical -Technique of ventilation-perfusion.	
	0.5		Formative assessment	14.3%
Student signature			Head of the department signature	Principle coordinator Signature

(17.5 credit point for training in Unit 1)

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training of Technology	17.5	Nuclear Medicine Unit	Year 1	63.7% of the training in Unit 1 (First part)
	15		Practice in the nuclear Medicine department for 15 week including: ➢ Log of cases as mentioned below ➢ Procedures log as mentioned below	85.7%
	1		➢ Clinical teaching 2 hours /week/ for 15 week	5.7%
	1.5		➢ Formative assessment	8.6
Student signature			Principle coordinator Signature	Head of the department signature

Technology of Nuclear medicine Lectures

Date	Attendance	Topic	Signature

Technology of Nuclear medicine Clinical Teaching

Date	Title of Clinical Teaching	Signature of Staff member

Training of Nuclear medicine Technology

Cases	Clinic	Hot Lab & injection.	Camera & Reporting	Signature of supervisor
100 Bone scintigraphy				
50 Thyroid scintigraphy				
30 I-131 WBS				
10 Parathyroid scintigraphy				
100 Renal scintigraphy				
5 Lung scintigraphy.				
5 GIT scintigraphy.				
10 Hepato-biliary scintigraphy				

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision

Procedures log book

Perform Bone scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
  A- Independent performance
  B- Performance under supervision
  C- Observed

Procedures log book

Perform Bone scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
  A- Independent performance
  B- Performance under supervision
  C- Observed

Procedures log book

Perform Thyroid scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
  A- Independent performance
  B- Performance under supervision
  C- Observed

Procedures log book

Perform Thyroid scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book

Perform I-131 WB scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book

Perform Renal scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book

Perform Renal scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book
Perform Lung scintigraphy

NO.	Level of competency*	Location	Signature

Procedures log book
Perform GIT scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book
Perform Hepatobiliary scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Year 2 or 3

(2.5 for didactics)

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Technology of Nuclear Medicine	2		**Topics and attendance**	**80!%**
	2		20 hours ***Tumor imaging** Radiopharmaceutical Technique. ***Infection & inflammation :** Radiopharmaceutical Technique. * **Cardiovascular system** **Myocardial perfusion** -Radiopharmaceutical -Stress test (treadmill, pharmacological) -Technique of SPECT -Quantitative assessment -Nuclide ventriculography -Radiopharmaceutical Stress test -Technique of first pass -Technique of gated blood pool -Clinical applications -Congenital heart disease -Infarct avid imaging. ***Central nervous system:** -Radiopharmaceutical -Technique of brain SPECT -Technique of cistrography.	80%%
	0.5		Formative assessment	20%
Student signature			Head of the department signature	Principle coordinator Signature

Year 2 or 3

(10 credit point for training in Unit 1)

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical training of Technology	10	Nuclear Medicine Unit	Year 2 or 3	36.36% of the training in Unit 1
	6		Practice in the nuclear Medicine department for 6 weeks including: ➢ Log of cases as mentioned below ➢ Procedures log as mentioned below	60%
	2		➢ Clinical teaching 2 hours /week/ for 30 week	20%
	2		➢ Formative assessment	20%
Student signature			Principle coordinator Signature	Head of the department signature

Technology of Nuclear medicine Lectures in year 2

Date	Attendance	Topic	Signature

Technology of Nuclear medicine Clinical Teaching in year2

Date	Title of Clinical Teaching	Signature of Staff member

Training of Nuclear medicine Technology in year 2 or 3

Cases	Clinic	Hot Lab & injection.	Camera & Reporting	Signature of supervisor
5 Brain scintigraphy				
5 Infection imaging				
5 Tumor imaging				
2 Sentinal lymph node localization				
2 Dacro-scintigraphy				
20 Cardiac scintigraphy.				

* Level of participation
  A- Plan and carry out
  B- Carry out
  C- Carry out under supervision

Procedures log book
Perform myocardial scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book
Perform Brain & lung scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency

A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book
Perform Tumor & Infection scintigraphy

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Technology of Nuclear medicine Lectures in year 3

Date	Attendance	Topic	Signature

Technology of Nuclear medicine Clinical Teaching in year 3

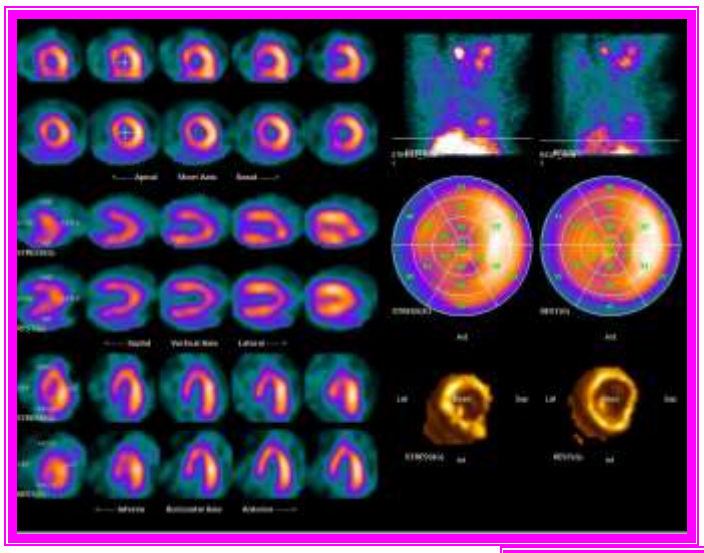
Date	Title of Clinical Teaching	Signature of Staff member

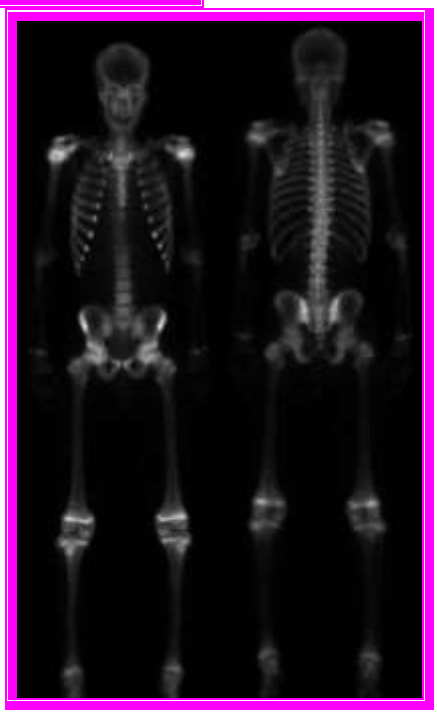
Technology of Nuclear medicine (attendance in department)

Date	Unit	Duration	Signature of supervisor

Unit 2

Clinical Nuclear medicine





Unit (Module)2

(Clinical Nuclear medicine)

Rotation / attendance proof

الأماكن التى تدرب بها

أسم المستشفى التى تدرب بها	توقيع رئيس القسم	توقيع مدير المستشفى

Unit (Module) 2

Clinical Nuclear medicine

Requirement:

- **Credit Points: 12 points for didactic and 55 points for training**
  - Minimal rate of attendance 80% of training and lectures

Year 2

(6 credit point for didactic in Unit 2)

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Nuclear Medicine Unit 2	4		**Topics and attendance**	**66.8%**
	2		20 hours *Skeletal systems: *Endocrine system: A.Thyroid gland. B. Adrenal Gland. C.Parathyroid gland. *Gentino-Urinary system. *Gamma camera and SPECT system.	33.4%
	2		20 hours *Gastro-Intestinal system. *Liver-spleen scanning. *Biliary system imaging *Infection & inflammation.	33.4%
	1		**Seminars** ➢ seminar/ week for 10 weeks ➢ Presentation of at least 1 time in the seminar	16.6
	0.5		**Conference or workshop**	8.3
	0.5		➢ **Formative assessment**	8.3
Student signature			Principle coordinator Signature	Head of the department signature

Year 2

(30 credit point for training in Unit 2)

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Training of Clinical Nuclear medicine	30	Nuclear Medicine Unit	Year 2	55% of the training in Unit 2
	24		Practice in the department for at least 6 months ➢ Log of cases as mentioned below ➢ Procedures log as mentioned below	80%
	3		➢ Clinical teaching 2 hours /week/ for 45 week.	10%
	3		➢ Formative assessment	10%
Student signature			Principle coordinator Signature	Head of the department signature

Cases log

Log of:

Case	Number
1. Skeletal systems:	
Bone metastasis:	
*single metastatic lesion.	5 cases
*Multiple metastases.	70 cases
*superscan.	5 cases
1ry bone tumors.	5 cases
Infected joint replacement.	2 cases
Osteomyelitis	1 case
AVN.	1 case
Cellulites.	As logged of
Metabolic bone diseases:	3 cases
2. Endocrine system:	
B. Thyroid gland:	
Congenital hypothyroidism.	As logged of
Single cold nodule.	10 cases
Multinodular goiter.	20 cases
Diffuse toxic goiter.	20 cases
Autonomous toxic nodule	10 cases
Thyroiditis	5 cases
Papillary cancer thyroid	25 cases
Follicular cancer thyroid	15 cases
Medullary cancer thyroid	2 cases
Undifferentiated ca thyroid	As logged of
C. Adrenal Gland:	
Pheochromocytoma	2 cases
Neuroblastoma	2 cases
D. Parathyroid gland	
Normal	As logged of
Parathyroid adenoma or carcinoma.	5 cases
Ectopic parathyroid gland	As logged of
3. Gasro-Intestinal system:	As logged of
Salivary gland scanning	

Esophageal transient (Achalasia, and	As logged of
other esophageal motility disorders)	As logged of
Gastrooesophageal reflux	
Gastric emptying (delayed gastric	As logged of
emptying)	As logged of
Gastrointestinal bleeding	As logged of
Malabsorption and intestinal transient	As logged of
4. Liver-spleen scanning:	
Hepatic focal lesion.	As logged of
Splenosis & hemolytic anemia	As logged of
5. Biliary system imaging	
Acute calcular cholecystitis	As logged of
Biliary obstruction:	
- Congenital billiary atresia	5 cases
- acquired:postoperative.	As logged of
Postoperative complications of bile	As logged of
surgery: e.g.: biliary leak,	As logged of
postocholecystectomy syndrome, biliary	As logged of
stent	As logged of
Acute & chronic acalcular cholecystitis.	As logged of
Sphincter of Oddi Dysfunction	As logged of
HCC & Haemangioma.	
6. Gentino-Urinary system	
Renal failure.	10 cases
Obstructive uropathy.	20 cases
Reflux.	10 cases
Horseshoe kidney.	5 cases
Ectopic kidney.	5 cases
Renovascular hypertention.	5 cases
Renal transplant.	As logged of
Testicular torsion.	As logged of
7. Infection & inflammation :	
Pyrexia of unknown origin	As logged of
Abdominal infection	As logged of
Chest infection	As logged of
Pelvic infection.	As logged of

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Clinical rounds (Reading Session) log

Date	Attendance	Case presentation	Signature of supervisor

Clinical rounds (Reading Session) log

Date	Attendance	Case presentation	Signature of supervisor

Clinical Seminars log

First: Attendance

Date	Attendance	Topic	Signature

Second: Case presentation

Date	Attendance	Topic	Signature

Clinical Teaching

Date	Title of Clinical Teaching	Signature of Staff member

Year 3

(6 credit point for didactic in Unit 2)

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
Clinical Nuclear Medicine Unit 2	3		**Topics and attendance**	**50%**
	3		30 hours *Tumor imaging * Cardiovascular system. *Central nervous system. *Pulmonary system.	50%
	2		**Seminars** ➢ seminar/ week for 20 weeks ➢ Presentation of at least 1 time in the seminar	33.4
	0.5		**Conference or workshop**	8.3
	0.5		➢ **Formative assessment**	8.3
Student signature			Principle coordinator Signature	Head of the department signature

(25 credit point for training in Unit 2)

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Training of Clinical Nuclear medicine	25	Nuclear Medicine Unit	Year 3	45% of the training in Unit 2
	20		Practice in the department for at least 5 months ➢ Log of cases as mentioned below ➢ Procedures log as mentioned below	20%
	3		➢ Clinical teaching 2 hours /week/ for 45 week	12%
	2		➢ Formative assessment	8%
Student signature			Principle coordinator Signature	Head of the department signature

Cases log

Log of:

Case	Number
1.Central nervous system:	
Acute cerebrovascular stroke	As logged of
Dementia	
Brain death	As logged of
Brain tumors	As logged of
Hydrocephalus	As logged of
CSF leak	
Obstructed shunt	As logged of
2.Pulmonary system:	As logged of
Pulmonary embolism.	
3.Infection & inflammation :	As logged of
Pyrexia of unknown origin	As logged of
Abdominal infection	As logged of
Chest infection	As logged of
Sarcoidosis	
Pelvic infection	
4.Myocardial perfusion	20 cases
Ischemic heart disaese	As logged of
Congenital heart disease	As logged of
Myocardial Infarction	As logged of
Hibernating myocardium	As logged of
5.Tumor imaging	
Tc99m MIBI whole body scan	As logged of
I131 MIBG whole body scan:	As logged of
I131 whole body scan:	As logged of
Thallium 201, Gallium 67 scan	As logged of
Immunoscintigraphy	As logged of
Scintimamography	As logged of
Somatostatin receptor imaging	As logged of
6.Lymphscintigraphy:	As logged of
lymphatic obstruction, lymphedema.	
Sentinel LN detection.	

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation
A- Plan and carry out
B- Carry out
C- Carry out under supervision

Clinical case log

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Clinical rounds (Reading Session) log

Date	Attendance	Case presentation	Signature of supervisor

Clinical rounds (Reading Session) log

Date	Attendance	Case presentation	Signature of supervisor

Clinical Seminars log

First: Attendance

Date	Attendance	Topic	Signature

Clinical Seminars log

First: Attendance

Date	Attendance	Topic	Signature

Clinical Seminars log book

Second: Case presentation

Date	Attendance	Topic	Signature

Clinical Teaching

Date	Title of Clinical Teaching	Signature of Staff member

Post graduate teaching
Third : Clinical Teaching

Date	Title of Clinical Teaching	Signature of Staff member

Postgraduate student's program
Rotation in training assessment

**** Name:***

**** Period of training From:***

To:

**** Site:***

****Rotation***

General skills	could not judge (0)	strongly disagree(1)	(2)	(3)	(4)	(5)	(6)	strongly agree (7)
Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).								
Appraises evidence from scientific studies.								
Conduct epidemiological studies and surveys.								
Perform data management including data entry and analysis and using information technology to manage information, access on-line medical information; and support their own education.								

General skills	could not judge (0)	strongly disagree(1)	(2)	(3)	(4)	(5)	(6)	strongly agree (7)
Facilitate learning of students other health care professionals including their evaluation and assessment.								
Maintain therapeutic and ethically sound relationship with patients.								
Elicit information using effective nonverbal, explanatory, questioning, and writing skills.								
Provide information using effective nonverbal, explanatory, questioning, and writing skills.								
Work effectively with others as a member of a health care team or other professional group.								
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.								
Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices.								

General skills	could not judge (0)	strongly disagree(1)	(2)	(3)	(4)	(5)	(6)	strongly agree (7)
Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.								
Work effectively in relevant health care delivery settings and systems including good administrative and time management								
Practice cost-effective health care and resource allocation that does not compromise quality of care.								
Assist patients in dealing with system complexities.								

Unit 3

Radioisotopes therapy

Unit (Module)3

Radioisotopes therapy

Rotation / attendance proof

الأماكن التى تدرب بها

أسم المستشفى التى تدرب بها	توقيع رئيس القسم	توقيع مدير المستشفى

Unit 3: Radioisotopes therapy

Requirement:

- **Credit Points: 6 points for didactic and 27.5 points for training**
- Minimal rate of attendance 80% of training and lectures
- Attendance of at least 30% of clinical rounds.

Year 2& 3

(6 credit point for didactic in Unit 3)

Name of the course	Credit points	Responsible department	Attendance	Percentage of Achieved points
	6		**Topics and attendance**	**%**
Radioisotopes therapy	2		20 hours Differentiated Cancer thyroid Undifferentiated Cancer thyroid Medullary Cancer thyroid Thyrotoxicosis.	33.3%
	2		20 hours Neuroendocrinal tumors Pheohromocytoma Neuroblastoma Carcinod tumors.	33.3%
	1.5		20 hours Radionuclide therapy for painful bone disease. Radionuclide therapy of lymphoma Radionuclide therapy of primary and metastatic hepatic tumors Radiosynovectomy	25%
	0.5		Formative assessment	8.3
Student signature			Head of the department signature	Principle coordinator Signature

(27.5 credit point for training in Unit 3)

Clinical training	Credit points	Responsible department	Attendance	Percentage of Achieved points
Radioisotopes therapy	27.5	Nuclear Medicine Unit	Year 2	
	10		Practice in the department for 10 weeks ➢ Log of cases as mentioned below ➢ Procedures log as mentioned below	71.4%
	3		➢ Clinical teaching 2 hours /week/ for 45 week	21.4%
	1		➢ Formative assessment	7.2%
Total	14			
			Year 3	
	10		Practice in the department for 10 weeks ➢ Log of cases as mentioned below ➢ Procedures log as mentioned below	74.1%
	3		➢ Clinical teaching 2 hours /week/ for 45 week	22.2%
	0.5		➢ Formative assessment	3.7%
Total	13.5			
Student signature			Principle coordinator Signature	Head of the department signature

Log of:

Case	Number
Thyrotoxicosis	
Graves' disease	10 cases
Autonomous nodule	2 cases
Secondary toxic goiter	5 cases
Differentiated Cancer thyroid	20 cases
Undifferentiated Cancer thyroid	As logged of
Medullary Cancer thyroid	As logged of
Neuroendocrinal tumors	As logged of
Pheohromocytoma	As logged of
Neuroblastoma	As logged of
Carcinod tumors	As logged of
Radionuclide therapy for painful bone	As logged of
disease.	As logged of
Radionuclide therapy of lymphoma	As logged of
Radionuclide therapy of primary and	As logged of
metastatic hepatic tumors	As logged of
Radiosynovectomy	

Cases log book

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Cases log book

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Cases log book

H.N	Diagnosis of case	Level of participation *	Location	Signature of supervisor

* Level of participation

A- Plan and carry out

B- Carry out

C- Carry out under supervision

Post graduate teaching

First : lectures

Date	Title of lecture	Signature of Staff member

Post graduate teaching

First : lectures

Date	Title of lecture	Signature of Staff member

Post graduate teaching

Second: Tutorial

Date	Title of Tutorial	Signature of Staff member

Post graduate teaching

Third: Clinical Teaching

Date	Title of Tutorial	Signature of Staff member

C- Procedures log book

Requirements

- **Log of under supervision at least**
  - Radioiodine therapy of hyperthyroidism (10 cases)
  - Radioiodine therapy of differentiated thyroid carcinoma, (20 cases)
  - Radionuclide therapy of neuroendocrine tumors (as logged of)
  - Radionuclide therapy for painful bone disease. (as logged of)
  - Radionuclide therapy of lymphoma (as logged of)
  - Radionuclide therapy of primary and metastatic hepatic tumors (as logged of)
  - Radiosynovectomy (as logged of)
- **prescribe & Perform**
  - Radioiodine therapy of hyperthyroidism (10 cases)
  - Radioiodine therapy of differentiated thyroid carcinoma, (30 cases)
  - Radionuclide therapy of neuroendocrine tumors (as logged of)
  - Radionuclide therapy for painful bone disease. (as logged of)
  - Radionuclide therapy of lymphoma(as logged of)
  - Radionuclide therapy of hepatic tumors (as logged of)
  - Radiosynovectomy (as logged of)

Procedures log book
Hyperthyroidism

NO	Procedure	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book
Differentiated thyroid cancer

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Procedures log book
Differentiated thyroid cancer

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

C- Procedures log book
Others

NO.	Level of competency*	Location	Signature

* Level of competency
A- Independent performance
B- Performance under supervision
C- Observed

Postgraduate student's program
Rotation in training assessment

**** Name:***

**** Period of training From:***

To:

**** Site:***

****Rotation***

General skills	could not judge (0)	strongly disagree(1)	(2)	(3)	(4)	(5)	(6)	strongly agree (7)
Perform practice-based improvement activities using a systematic methodology (share in audits and risk management activities and use logbooks).								
Appraises evidence from scientific studies.								
Conduct epidemiological studies and surveys.								
Perform data management including data entry and analysis and using information technology to manage information, access on-line medical information; and support their own education.								

General skills	could not judge (0)	strongly disagree(1)	(2)	(3)	(4)	(5)	(6)	strongly agree (7)
Facilitate learning of students other health care professionals including their evaluation and assessment.								
Maintain therapeutic and ethically sound relationship with patients.								
Elicit information using effective nonverbal, explanatory, questioning, and writing skills.								
Provide information using effective nonverbal, explanatory, questioning, and writing skills.								
Work effectively with others as a member of a health care team or other professional group.								
Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society.								
Demonstrate a commitment to ethical principles including provision or withholding of clinical care, confidentiality of patient information, informed consent, business practices.								

General skills	could not judge (0)	strongly disagree(1)	(2)	(3)	(4)	(5)	(6)	strongly agree (7)
Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.								
Work effectively in relevant health care delivery settings and systems including good administrative and time management								
Practice cost-effective health care and resource allocation that does not compromise quality of care.								
Assist patients in dealing with system complexities.								

Elective Course 1

Requirements

- **Credit points:** 2 credit point.
  - Minimal rate of attendance 80% of lectures and 80% of training

One of these courses

- Medical statistics.
- Evidence based medicine.
- Medicolegal Aspects and Ethics in Medical Practice and Scientific Research
- Quality assurance of medical education.
- Quality assurance of clinical practice.
-Hospital management

Name of the elective course: ----------

Elective Course 1 Lectures

Date	Attendance	Topic	Signature

Elective Course 1 Practical skills

Date	Attendance	Topic	Signature

Academic activities

Academic activities

Lecture, journal club, conference, workshop

Activity	Your role **	Date	Signature of supervisor

** Your role:-
A- Attendance
B- Organization
C- Presentation

Formative assessment

Exam	Score	Date	Signature

MCQ Assessments

- Two MCQ examination at the second year for Diagnostic Nuclear Medicine
- Tow MCQ examination at the second year for Therapeutic Nuclear Medicine

Date	grade *	Signature of Head of the department

*Degree
A- Excellent
B- Very good
C- Good
D- Pass

الرسائل العلمية

عنوان الرسالة

عربـــــــــــــــــــي :

انجلـــــــــــــــــــيزي :

المشرفـــــــــــــــون :

1- .....

2- .....

3 .....

4- .....

تاريخ القيــد لدرجـــة : ..... / /

تاريخ التسجيل الموضوع: .....

المتابعة الدوريـــــــــة : .....

التاريخ	ما تم انجازه من بروتوكول البحث	المتبقي	توقيع المشرفين

Declaration

Course Structure Mirror	Responsible (Course) Coordinator Name:	Signature	Date
First Part			
Course 1			
Course 2			
Course 3			
Course 4			
Course 5			
Course 6			
Second Part			
Course 7			
Unit 1			
Unit 2			
Unit 3			
- Elective Course (s) Certificate (s) Dates:			
- Master Degree Thesis Acceptance Date:			
- Fulfillment of required credit points prior to final examination			
Nuclear Medicine M Sc Degree Principle Coordinator:			
Date approved by Department Council:			

يعتمد ،
رئيس القسم
أ.د/